

***Remarks***

Reconsideration of this Application is respectfully requested.

Claims 1-24 are pending in the application, with claims 1, 9, and 15 being the independent claims.

Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103***

**Claims 1, 2, 5-7, 15, 16, 19 and 20**

The Examiner has rejected claims 1, 2, 5-7, 15, 16, 19, and 20 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent 6,219,339 to Doshi et al. ("Doshi") in view of "Proposal of a Method of for Voice Stream Multiplexing for IP Telephony Systems" to Hoshi et al. ("Hoshi"). For the reasons set forth below, Applicant respectfully submits that the Examiner has failed to make out a *prima facie* case of obviousness of claims 1, 2, 5-7, 15, 16, 19, and 20 based on the combination of Doshi and Hoshi.

**The combination of Doshi and Hoshi does not render obvious claims 1, 2, and 5-7**

Independent claim 1 is directed to a telephony system comprising:

- a first voice processing module;
- a second voice processing module;
- a host processor coupled to said first and second voice processing modules; and

a buffer coupled to said first voice processing module, said second voice processing module, and said host processor;

wherein said first voice processing module is adapted to receive first digital voice signals from any one of a first plurality of subscriber lines, to compress said first digital voice signals to generate a first voice packet, and to transfer said first voice packet to said buffer,

wherein said second voice processing module is adapted to receive second digital voice signals from any one of a second plurality of subscriber lines, to compress said second digital voice signals to generate a second voice packet, and to transfer said second voice packet to said buffer; and

wherein said host processor is adapted to assemble a packet comprising said first voice packet and said second voice packet and to transmit said assembled packet for delivery over a data network.

The combination of Doshi and Hoshi does not teach or suggest each of the foregoing features of claim 1. Doshi discloses a "voice encoder/decoder 710" that receives bit streams "representing voice, or audio, information" which it compresses "into a compressed audio stream." *See* Doshi col. 3, ll. 31-36. Doshi further discloses a "voice packetization and sequence numbering element 715" which "converts [a] compressed audio stream into voice packets for application to queue 720". *See* Doshi col. 3, ll. 26, 27, and 36-39. The conversion "performs silence suppression, assignment of sequence numbers, and background noise level notification." *See* Doshi col. 3, ll. 39-41. The Examiner suggests that the "voice packetization and sequence numbering element" disclosed in Doshi is the same as the first and second voice processing modules in claim 1. However, Doshi does not teach or suggest first and second voice processing modules because the "voice packetization and sequence numbering element" receives a serial audio stream and generates voice packets in series, whereas first and second voice

processing modules are operable to compress first and second "digital voice signal[s]" and generate first and second "voice packet[s]" in parallel.

Applicant's specification recites one possible benefit of the embodiment of claim 1 as follows:

As will be described further herein, the use of multiple audio processing modules ... and multiple voice processing modules ... in the example MDU telephony system ... permit voice packets to be generated in parallel from the first ... and from the second set of subscriber lines... These voice packets are then concatenated into a single assembled packet for upstream transmission by the cable modem module...

*See Applicant's Specification para. 0047.* Doshi nowhere teaches or suggests the use of multiple "voice processing module[s]" in order to generate voice packets in parallel. Doshi is instead directed to discarding packets in a queue "during periods of network congestion". *See Doshi col. 3, ll. 55-56.* It therefore cannot be concluded that Doshi contemplated multiple voice processing modules because Doshi is primarily concerned with the transmission of voice packets, rather than the generation of the voice packets. Because Doshi does not contemplate multiple voice processing modules, Doshi logically does not contemplate first and second "voice processing modules".

Another feature of claim 1 is the generation of "a first voice packet" and "a second voice packet" by the first and second voice processing modules. The host processor of claim 1 "[assembles] a packet comprising said first voice packet and said second voice packet". The Examiner concedes that "Doshi does not expressly call for: assembling a packet comprising said first voice packet and said second voice packet."

Hoshi discloses "concatenating ... voice packets" in a "multiplexing packet format". *See Hoshi p. 184.* Hoshi nowhere teaches or suggests "[assembling] a packet

comprising said first voice packet and said second voice packet" that originate in first and second voice processing modules. Furthermore, Hoshi nowhere teaches or suggests "generat[ing] a ... voice packet" nor the use of a "voice processing module". Hoshi is silent on the manner in which voice packets are generated as well as the components necessary to generate voice packets.

Applicant submits that the combination of Doshi and Hoshi therefore does not render obvious the use of a first and second "voice processing module" in order to generate a first and second "voice packet". Doshi and Hoshi do not contemplate the use of multiple "voice processing modules" capable of generating voice packets in parallel.

Furthermore, Applicant submits that a person of ordinary skill in the art would not be motivated to combine Doshi and Hoshi in order to provide parallel generation of voice packets. Doshi is primarily directed to discarding voice packets during periods of network congestion, whereas Hoshi is primarily directed to the multiplexing of voice packets. Thus, because Doshi and Hoshi provide very different solutions to the problem of restricted network bandwidth, a person of ordinary skill in the art would not be motivated to combine the two references.

Since Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 1 they cannot render obvious that claim. Moreover, as noted above, a person of ordinary skill in the art would not be motivated to combine Doshi and Hoshi. Accordingly, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn. Furthermore, dependent claims 2 and 5-7 are also not rendered obvious by Doshi and Hoshi for at least the same reasons as independent claim 1 from which they depend and further in view of

their own respective features. Accordingly, the Examiner's rejection of claims 2 and 5-7 under 35 U.S.C. § 103(a) is also traversed and Applicant respectfully requests that the rejection be withdrawn.

**The combination of Doshi and Hoshi does not render obvious claims 15, 16, 19, and 20**

As noted above with regard to independent claim 1, Doshi and Hoshi do not teach or suggest first and second "voice processing module[s]" used to compress first and second "digital voice signal[s]" to generate first and second "voice packet[s]". Because of this, Doshi and Hoshi also cannot logically teach or suggest the features of independent claim 15 such as "compressing [first and second] digital voice signals using a [first and second] voice processing module to generate a [first and second] voice packet" wherein the first and second digital voice signals are received from a first and second "plurality of subscriber lines". As discussed above, a person of ordinary skill in the art would not be motivated to combine Doshi and Hoshi in order to compress and generate voice packets in parallel using first and second "voice processing module[s]" and assemble them into a single packet.

Since Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 15 they cannot render obvious that claim. Moreover, as noted above, a person of ordinary skill in the art would not be motivated to combine Doshi and Hoshi. Accordingly, the Examiner's rejection of claim 15 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn. Furthermore, dependent claims 16, 19, and 20 are also not rendered obvious by Doshi and Hoshi for at least the same reasons as independent claim 15 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims

16, 19 and 20 under 35 U.S.C. § 103(a) is also traversed and Applicant respectfully requests that the rejection be withdrawn.

**Claims 9-13 and 21**

The Examiner has rejected claims 9-13 and 21 under 35 U.S.C. § 103(a) as being obvious over Doshi in view of Hoshi and further in view of "An Implementation of VoIP Cable Modem" to Seo et al. ("Seo"). For the reasons set forth below, Applicant respectfully submits that the Examiner has failed to make out a *prima facie* case of obviousness of claims 9-13 and 21 based on the combination of Doshi, Hoshi, and Seo.

**The combination of Doshi, Hoshi, and Seo does not render obvious claims 9-13**

As noted above with regard to independent claim 1, Doshi and Hoshi do not teach or suggest first and second "voice processing module[s]" used to compress first and second "digital voice signal[s]" to generate first and second "voice packet[s]". Seo is directed to implementation of Voice Over Internet Protocol in a Cable Modem, and also does not teach or suggest first and second "voice processing module[s]" used to compress first and second "digital voice signal[s]" to generate first and second "voice packet[s]". Seo is only concerned with the connectivity of a single phone to the cable modem as demonstrated by the scope of the VoIP Board shown in Fig. 3 and thus cannot logically teach receiving first and second "digital voice signals" from a first and second "plurality of subscriber lines". *See* Seo p. 1533. Furthermore, Seo nowhere discusses "voice packet[s]".

Considering independent claim 9, the combination of Doshi, Hoshi, and Seo does not teach or suggest a "host processor within [a] cable modem device ... adapted to assemble a packet comprising [a] first voice packet and [a] second voice packet",

wherein the first and second voice packets are generated by a first and second "voice processing module" from any one of a first and second "plurality of subscriber lines".

Since Doshi, Hoshi, and Seo do not teach or suggest each and every limitation of independent claim 9 they cannot render obvious that claim. Accordingly, the Examiner's rejection of claim 9 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn. Furthermore, dependent claims 10-13 are also not rendered obvious by Doshi, Hoshi, and Seo for at least the same reasons as independent claim 9 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 10-13 under 35 U.S.C. § 103(a) is also traversed and Applicant respectfully requests that the rejection be withdrawn.

**The combination of Doshi, Hoshi, and Seo does not render obvious claim 21**

As demonstrated above, Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 15, and thus they cannot render obvious that claim. Applicants maintain that Seo nowhere teaches or suggests, either alone or in combination with Doshi and Hoshi, each and every feature of independent claim 15. Dependent claim 21 is also not rendered obvious by Doshi, Hoshi, and Seo for at least the same reasons as independent claim 15 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 21 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

**Claims 3, 4, 8, 14, 17, 18, and 22**

The Examiner has rejected claims 3, 4, 8, 14, 17, 18, and 22 under 35 U.S.C. § 103(a) as being obvious over Doshi in view of Hoshi and further in view of "Data-Over-

Cable Service Interface Specifications Radio Frequency Interface Specification"

("DOCSIS"). For the reasons set forth below, Applicant respectfully submits that the Examiner has failed to make out a *prima facie* case of obviousness of claims 3, 4, 8, 14, 17, 18, and 22 based on the combination of Doshi, Hoshi, and DOCSIS.

**The combination of Doshi, Hoshi, and DOCSIS does not render obvious claims 3, 4, and 8**

As demonstrated above, Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 1, and thus they cannot render obvious that claim. Applicants maintain that DOCSIS nowhere teaches or suggests, either alone or in combination with Doshi and Hoshi, each and every feature of independent claim 1. Dependent claims 3, 4, and 8 are also not rendered obvious by Doshi, Hoshi, and DOCSIS for at least the same reasons as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 3, 4, and 8 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

**The combination of Doshi, Hoshi, and DOCSIS does not render obvious claim 14**

As demonstrated above, Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 9, and thus they cannot render obvious that claim. Applicants maintain that DOCSIS nowhere teaches or suggests, either alone or in combination with Doshi and Hoshi, each and every feature of independent claim 9. Dependent claim 14 is also not rendered obvious by Doshi, Hoshi, and DOCSIS for at least the same reasons as independent claim 9 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 14 under



35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

**The combination of Doshi, Hoshi, and DOCSIS does not render obvious claims 17, 18, and 22**

As demonstrated above, Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 15, and thus they cannot render obvious that claim. Applicants maintain that DOCSIS nowhere teaches or suggests, either alone or in combination with Doshi and Hoshi, each and every feature of independent claim 15. Dependent claims 17, 18, and 22 are also not rendered obvious by Doshi, Hoshi, and DOCSIS for at least the same reasons as independent claim 15 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 17, 18, and 22 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

**Claim 14**

The Examiner has rejected claim 14 under 35 U.S.C. § 103(a) as being obvious over Doshi in view of Hoshi, in view of Seo, and further in view of DOCSIS. As demonstrated above, Doshi, Hoshi, and Seo do not teach or suggest each and every limitation of independent claim 9, and thus they cannot render obvious that claim. Applicants maintain that DOCSIS nowhere teaches or suggests, either alone or in combination with Doshi, Hoshi, and Seo, each and every feature of independent claim 9. Dependent claim 14 is also not rendered obvious by Doshi, Hoshi, Seo, and DOCSIS for at least the same reasons as independent claim 9 from which it depends and further in view of its own respective features. Accordingly, the Examiner's rejection of claim 14

under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

**Claims 23 and 24**

The Examiner has rejected claims 23 and 24 under U.S.C. § 103(a) as being obvious over Doshi in view of Hoshi and further in view of U.S. Patent 6,088,745 to Bertagna et al. ("Bertagna"). As demonstrated above, Doshi and Hoshi do not teach or suggest each and every limitation of independent claim 15, and thus they cannot render obvious that claim. Applicants maintain that Bertagna nowhere teaches or suggests, either alone or in combination with Doshi and Hoshi, each and every feature of independent claim 15. Dependent claims 23 and 24 are also not rendered obvious by Doshi, Hoshi, and Bertagna for at least the same reasons as independent claim 15 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejection of claims 23 and 24 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be withdrawn.

***Conclusion***

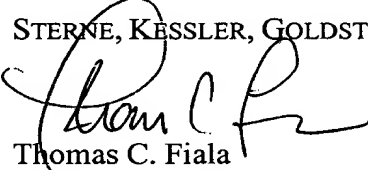
All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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